INTRODUCTION TO THE NEW SUBPART R

Prepared by the U.S. Department of Labor, OSHA

Office of Construction Standards and Compliance Assistance

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§1926.750 Scope

- The standard covers all employers engaged in steel erection activities.
- There are two lists of activities:
  - Primary: All activities in .750 (b)(1) are covered (connecting, bracing, guying . . .)
  - Ancillary: All listed in .750 (b)(2) are covered "*when they occur during and are a part of steel erection activities*"

    (sealing, caulking, elevator beams . . .)

scope (cont.)

Does not include:

- electrical transmission towers,
- communication and broadcast towers,
- tanks.

SITE PREPARATION

1926.752 (c)

- Adequate lay-out area
- Adequate access roads

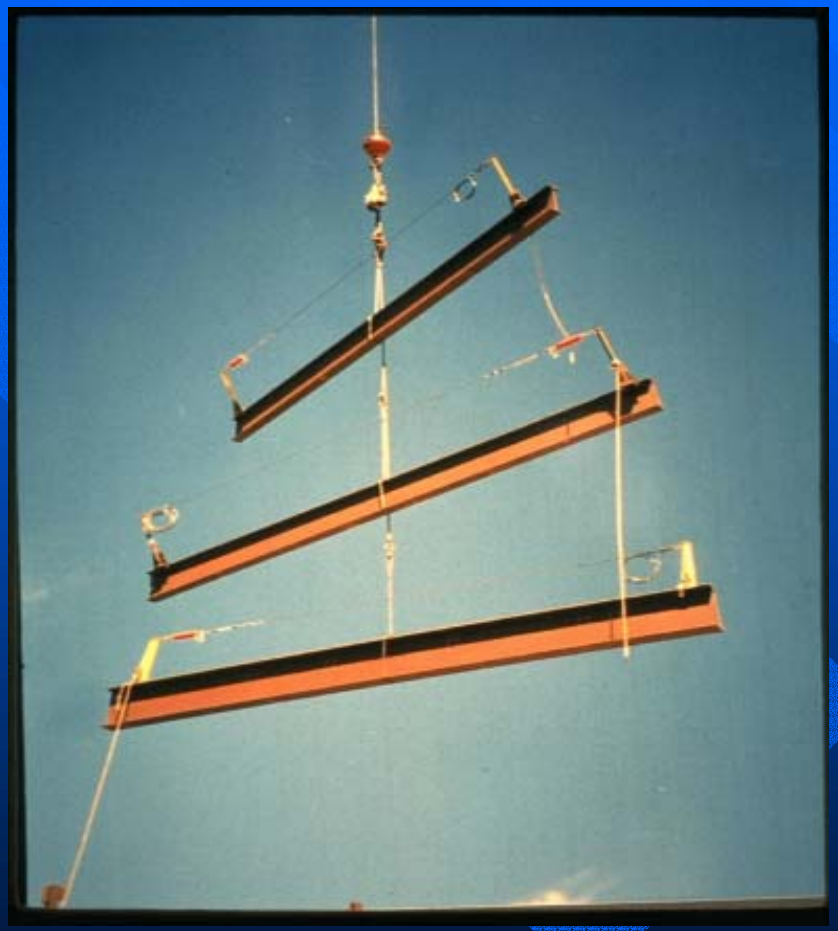
lay-out area and access roads

CRANES
and
FALLING OBJECT PROTECTION

§1926.753 Hoisting and Rigging

- Cranes: 1926.550 applies (except personnel platform provision) PLUS new, additional requirements
- Employee exposure to overhead loads to be reduced through pre-planning (.752) and work practice requirements.
- Allows for expanded use of personnel platforms (.753 (c)(4)).
- Prescribes proper procedure for multiple lifts "christmas-treeing" (.753(e) "*multiple lift rigging procedure*")

multiple lift



§1926.759 Falling Object Protection (does not apply to materials being hoisted)

- Secure loose items aloft
- Controlling contractor to bar operations below steel erection unless falling object protection provided (from objects other than hoisted materials)

STRUCTURAL STABILITY

§1926.755 Column Anchorage

Column Anchorage

- Requires 4 anchor bolts per column
  - contains design strength requirements and other column stability requirements
- Assure the adequacy of anchor bolts modified in the field
  - written notice must be given to erector that changes were made

modification/repair of anchor bolt

§1926.752(a) and (b) Concrete Strength

- Concrete/mortar for footings, piers & walls
- Written confirmation of ASTM test -- to erector

§1926.756 Beams and Columns

Beams and Columns

- Two bolts per connection prior to releasing hoisting line
- Safe procedures/devices for making double connections at columns

minimum of two bolts per connection before releasing hoisting line

double connection with seat

§1926.757 Open Web Steel Joists

steel joist concepts: terms

- Erection Bridging:

steel joist concepts: terms

- Erection bridging “anchored” to a “terminus point”:

steel joist concepts:

- What you have to do before releasing hoisting cable:
  - Joist end connection requirements
  - Erection bridging
- Max # of workers allowed on joist
- Specs for:
  - Initial connections (specs and devices; holes requirement)
  - Final connections
- Requirements vary with length of span
- Some exceptions for “constructibility”

§1926.757 Open Web Steel Joists (cont'd)

- Requirements for landing and placing loads on joists
- Some requirements may be modified through a site-specific erection plan (tandem setting of some 60'+ joists and requirements for landing decking bundles)

§1926.754 Structural Steel Assembly

- **Provides specific work practices for:**
  - maintaining structural stability (max# unsecured floors)
  - landing deck bundles – where and weight

metal decking

decking bundle

§1926.758 Systems-Engineered Metal Buildings

Requirements for the erection of these specialized structures which account for a large amount of steel erection.

FALL PREVENTION AND PROTECTION

§1926.760 Fall Protection

- All must be protected at heights greater than 2 stories or 30 feet, including connectors and deckers
- Between 15 and 30 feet: Fall protection required for all with exceptions for:
  - Deckers in controlled decking zone (CDZ) and
  - Connectors
    - » Connectors must be provided and wear equipment necessary to be able to be tied-off, or be provided with other means of fall protection

Fall Protection: CDZ

§1926.760 Fall Protection (cont.)

- Controlled decking zone:
  - For leading edge decking work
    - » limited access
    - » designated boundaries (usually by control lines)
    - » Work practices for attaching deck:
      - install safety attachments from leading edge back
      - no final attachments allowed in CDZ
      - up to 3000 SF of unsecured decking
    - » specific training requirements

Fall Protection -- Perimeter Cables (req. in beams and columns)

- Requirements to facilitate quick installation of perimeter safety cables:
  - Column attachments or holes in columns for perimeter safety cables
  - Column splice height and strength specified

§1926.760 Fall Protection (cont.)

- Perimeter cables required on multi-story buildings
  - Must be installed "*as soon as the metal decking has been installed*"
- Custody of Fall Protection Equipment:
  - Controlling contractor must choose to <u>either</u>:
    - » accept responsibility for maintaining fall protection equipment left by erector,
    - » <u>OR</u> ensure that it is removed (.760(e))

1926.754(e) holes and openings

minimizing fall hazards in interior openings (decking-over)

Tripping and Slipping

- **Walking/working surfaces requirements:**
  - tripping hazards: shear connectors (and similar projections) generally prohibited until decking is installed
  - slip resistance criteria for painted structural steel members (effective 5 years after the rest of the standard)

shear connectors

§1926.761 Training

- Qualified person to train workers in use & operation of fall protection equipment
- Qualified person to train workers engaged in specific activities:
  - "christmas-treeing"
  - connecting
  - CDZ procedures

SITE SPECIFIC ERECTION PLAN OPTION

§1926.752

- No general requirement for an erection plan
- Some requirements may be modified through a site-specific plan if equivalent protection is provided.
  - Safety latches on hooks activated (.753(c)(5))
  - Setting joists 60'+ at/near columns in tandem (.757(a)(4))
  - Landing decking on steel joists (.757(e)(4))

§1926.750(c) Specific Controlling Contractor Duties

- Written notification to the steel erector:
  - Concrete in piers/walls is cured re ASTM spec
  - Anchor bolt modifications/repairs approved by project engineer (.752(a); .755(b))
- Adequate on-site access roads (.752(c))
- Preclude work below steel erection unless there is overhead protection (.759(b))
- Choose whether to accept responsibility for maintaining fall protection equipment left by erector (otherwise it must be removed) (.760(e))

Effective Date and Phase-In

- New Effective date: January 18, 2002
- Phase-in Exceptions for
  - Component provisions (these affect the design of components. Example: columns must have 4 anchor bolts)
  - Component provisions will NOT apply where:
    - » (Buildings)
      - Building Permit obtained prior to January 18, 2001
      - Steel erection has begun on or before September 16, 2001
    - (Bridges)
      - Contract date before January 18, 2001; or
      - Steel erection began before September 16, 2001.

- Painted surfaces slip resistance provision – July 18, 2006

OSHA's Web Site

- The complete standard can be obtained from our web site at www.osha.gov.

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